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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,175	12/04/2003	Richard A. Nelson	A3-168US	8970

7590 11/01/2004  
Thomas D. Paulius  
MOLEX INCORPORATED  
2222 Wellington Court  
Lisle, IL 60532

EXAMINER

GILMAN, ALEXANDER

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,175

Applicant(s)

NELSON ET AL.

Examiner

Alexander D Gilman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) 12, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

Claims 12 and 17 objected to because of the following informalities:

Claim 12, line 8, and claim 17, line 39 both recite "the round ground terminals"

The specification does not present the above-mentioned configuration of the ground terminals.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Mickievicz.

Mickievicz (US 5,664,968) disclose a receptacle connector, comprising:

an outer hollow insulative housing (12) defining an interior receptacle, the receptacle including a plurality of conductive signal (36) and ground terminals (82, 84) arranged therein, the signal terminals being supported within said receptacle by an insulative support base (34, 32) and each of said signal terminals including a tail portion and a contact portion at opposing ends thereof said signal terminals being spaced apart from each other along the insulative support base to define a linear array of signal terminals, said receptacle including at least two linear arrays of said signal terminals, the ground terminals being arranged within said receptacle in at least first (82) and second (84) distinct linear arrays, the first ground terminal array including a conductive base portion and a plurality of contact (99, 98) and tail (92, 93) portions extending from opposite sides of the base portion and the second ground terminal array also including a conductive base portion and a plurality of contact and tail portions extending from opposite sides of the base portion, said signal terminal and said

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ground terminal first and second terminal arrays being arranged in alternating order of ground-signal-ground-signal terminals.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mickiewicz in view of Ortega et al.

Mickiewicz discloses all of the limitations except for L-shaped contact portion of the signal terminals.

Ortega et al (US 6,322,379) disclose (Fig. 6a) L-shaped contact portion of the signal terminals.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the signal contact portions as L-shaped, as taught by Ortega et al, to more dependably contact pins of a mating connector in 3-D way.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mickiewicz in view of Lu.

Mickiewicz discloses all of the limitations except for signal terminal tail portions include solder balls.

Lu (US 6,168,469) disclose (Fig. 9) signal terminal tail portions include solder balls.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the signal terminals to PCB using solder balls, as taught by Lu, to utilize the time-effective method of surface attachment.

***Allowable Subject Matter***

Claims 1-11 are allowed.

Claims 17, 18 would be allowable if amended to overcome the objection, set forth in this Office action.

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Claims 12, 13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No prior art has been found to anticipate or render obvious the presently claimed subject matter.

Specifically, none of the prior art of record discloses the combination of the limitations presented including the central ground terminal support member outer shell having a conductive coating disposed on its exterior surfaces

which contacts the central ground plate; each of the two signal terminal support members supporting an array of

conductive signal terminals arranged in two arrays, each signal terminal of the array including a tail portion for connecting to a circuit board and a contact portion for connecting to the mating connector, and a body portion that interconnects the signal terminal tail and contact portions together, each of signal arrays being held within a respective outer dielectric shell, the signal terminal shells being disposed on opposite sides of said central ground terminal support member, each signal terminal shell including a plurality of raised lands separated by intervening channels disposed thereon, said body portions of said signal terminal arrays being encapsulated within said signal terminal support member raised lands (claims 1, 17).

the contact portions of said first array of ground terminals are wider than said contact portions of said second array of ground terminals (claim 13).

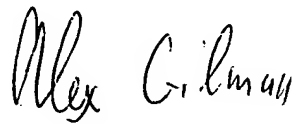
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/28/2004

A handwritten signature in black ink, appearing to read "Alex Gilman". The signature is written in a cursive, flowing style.

**ALEXANDER GILMAN  
PRIMARY EXAMINER**